



UNITED STATES PATENT AND TRADEMARK OFFICE

cev

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,857	04/20/2000	Jeffrey Allen Whaley	AUS000104USI	4257

7590 01/30/2004

Duke W Yee
Carstens Yee & Cahoon LLP
PO BOX 802334
Dallas, TX 75380

EXAMINER

WALLACE, SCOTT A

ART UNIT	PAPER NUMBER
----------	--------------

2671

DATE MAILED: 01/30/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,857

Applicant(s)

WHALEY, JEFFREY ALLEN

Examiner

Scott Wallace

Art Unit

2671

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments with respect to claims 1-18 and 22-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2, 4-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Gholizadeh et al., U.S. Patent No. 5,369,737.
4. As per claim 1, Gholizadeh et al discloses an apparatus for optimizing processing of graphics data (column 6 lines 40-65), the apparatus comprising: a plurality of logic units (fig 3, #'s 76, 72, 74), wherein the plurality of logic units are used to perform a graphics operation in which a set of constants is required for the graphics operation (column 6 lines 40-65); a first set of connections connecting the plurality of logic units to each other (fig 3), wherein the first set of connections are used to configure the plurality of logic units to determine the set of constants (column 6 lines 40-65); and a second set of connections connecting the plurality of logic units fig 3), wherein the second set of connections configure the plurality of logic units to perform the graphics operation in which the graphics operation using the constants is determined through the first set of connections (column 6 lines 40-65).
5. As per claim 2, Gholizadeh et al discloses wherein the first set of connections and the second set of connections include common connections (fig 3, #78).
6. As per claim 4, Gholizadeh et al discloses wherein the graphics operation is a viewport transformation (column 3 lines 54-60).

Art Unit: 2671

7. As per claim 5 Gholizadeh et al discloses wherein the constants are stored in memory (fig 3, #70, register is memory).
8. As per claim 6, Gholizadeh et al discloses wherein the constants are stored in a set of registers (fig 3, #70).
9. As per claim 7, although Gholizadeh et al does not disclose graphics adapter, it discloses a graphics function, which was well known to be done by graphics adapters.
10. As per claim 8, Gholizadeh et al discloses a storage unit, wherein the set of constants are stored in the storage unit such that redetermination of the set of constants for subsequent operations is unnecessary until the set of constants change (fig 3 and column 6 lines 40-65).
11. As per claim 9, Gholizadeh et al discloses wherein the storage is a set of registers (fig 3, #70).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gholizadeh et al in view of Rohner, U.S. Patent No. 6,064,392.

Art Unit: 2671

14. As per claim 3, Gholizadeh et al does not disclose wherein the graphics operation is a generation of a fog factor. This is disclosed in Rohner in the abstract. It would have been obvious to generate a fog factor as the graphics operation because it was well known to use fog for added realism in graphics.

15. Claims 10-12, 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindholm et al., U.S. Patent No. 6,198,488 in view of Gholizadeh et al.

16. As per claim 10, Lindholm et al discloses a graphics pipeline (fig 1A) comprising: an input (fig 1A), wherein the input receives graphics data (fig 1A); and output (fig 1A), wherein the output transmits processed graphics data (fig 1A); and a plurality of stages (visibility logic, fog, etc..), wherein s first stage within the plurality of stages is connected to the input and a last stage within the plurality of stages is connected to the output, wherein s selected stage within the plurality of stages includes a plurality of modes of operation (fig 1A). However, Lindholm et al does not disclose modes of operation in which the selected stage is configured to determine constants for use in performing a graphics operation and in which the selected stage is configured to perform the graphics operation using the constants. This is disclosed in Gholizadeh et al in column 6 lines 40-65. It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate constants because this would increase processing speed by not having to regenerate them every time they are needed.

17. As per claim 11, Gholizadeh et al discloses wherein the constants are stored in s storage device (fig 3, #70).

18. As per claim 12, Gholizadeh et al discloses wherein the storage device is a set of registers (fig 3, #70).

19. As per claim 14, Gholizadeh et al discloses wherein the selected stage is a viewport transformation unit (column 3 lines 54-60).

Art Unit: 2671

20. As per claim 15, Lindholm et al discloses wherein the output is connected to a raster engine (fig 1A).
21. As per claim 16, Lindholm et al discloses wherein the input is connected to the raster engine (fig 1A).
22. As per claim 17, Lindholm et al discloses wherein the input and the output are located in a raster interface unit (fig 1A).
23. As per claim 18, Gholizadeh et al discloses a storage unit, wherein the set of constants are stored in the storage unit such that redetermination of the set of constants for subsequent operations is unnecessary until the set of constants change (fig 3 and column 6 lines 40-65).
24. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lindholm et al in view of Gholizadeh et al in further in view of Rohner.
25. As per claim 13, Lindholm and Gholizadeh fail to teach wherein the graphics operation is a generation of a fog factor. This is disclosed in Rohner in the abstract. It would have been obvious to generate a fog factor as the graphics operation because it was well known to use fog for added realism in graphics.
26. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cobb et al., U.S. Patent No. 6,603,474 in view of Gholizadeh et al.
27. As per claim 22, Cobb et al discloses an input configured to receive graphics data (column 4 lines 32-38); a frame buffer, wherein processed graphics data is stored for display (column 1 lines 30-34); a raster engine connected to the input and to the frame buffer, wherein the raster engine rasterizes the

Art Unit: 2671

processed graphics data for display (column 4 lines 32-38); a geometry engine connected to the raster engine (column 4 lines 32-38), wherein the geometry engine receives graphics data from the raster engine (column 4 lines 32-38), processes the graphics data to the raster engine to form the processed graphics data (column 4 lines 32-38), and returns the processed graphics data to the raster engine and wherein the geometry engine includes a set of processing elements in which at least one processing element within the set of processing elements includes a set of logic units (it is well known for geometry engines to include processing elements because you are processing geometry data). However, Cobb et al does not disclose in which the set of logic units is used to perform an operation on the graphics data using an equation and wherein a portion of the set of logic units is used to determine at least one constant for the equation used in the operation. This disclosed in Gholizadeh et al in column 6 lines 40-65. It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate constants because this would increase processing speed by not having to regenerate them every time they are needed.

28. As per claim 23, Gholizadeh et al discloses wherein the at least one processing element includes a storage to store the constant determined by the portion of the set of logic units such that redetermination of the at least one constant for additional operations on other graphics data is unnecessary until the at least one constant changes (column 6 lines 40-65).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Scott Wallace** whose telephone number is **703-605-5163**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mark Zimmerman**, can be reached at 703-305-9798.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

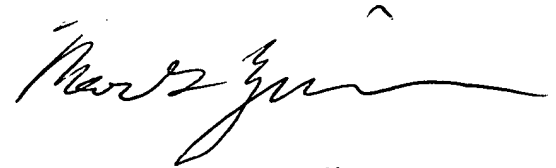
Art Unit: 2671

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA,
Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be
directed to the Technology Center 2600 Customer Service Office whose telephone number is
(703) 306-0377.



MARK ZIMMERMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600